CLAIMS

I claim:

1. A container handling apparatus configured to grip and support a container, the apparatus comprising:

a support member configured to be coupled to a conveyor; and

a one-piece retainer releasably coupled to the support member, the retainer configured to engage a container.

2. The container handling apparatus of claim 1, wherein the retainer includes a first arm portion, a second arm portion, and a base portion interconnecting the first and second arm portions.

3. The container handling apparatus of claim 2, wherein each of the arm portions includes a distal end, the distal ends of the respective arm portions being spaced and configured to accept entry of the container such that the arm portions deflect away from one another as the container enters between the distal ends.

4. The container handling apparatus of claim 2, wherein each of the arm portions includes an arcuate portion, and wherein the container is securable between the respective arcuate portions of the first and second arm portions.

5. The container handling apparatus of claim 1, wherein the retainer is substantially circular in cross-section.

6. The container handling apparatus of claim 1, wherein the support member includes spaced apart projections each defining a groove therein, and wherein the retainer is positionable in the grooves to be coupled to the support member.

7. The container handling apparatus of claim 1, wherein the retainer is releasable from the support member without the use of tools.

8. The container handling apparatus of claim 1, further comprising a mounting member configured for releasably engaging the support member to couple the support member to the conveyor, the retainer being releasable from the support member only when the support member is disengaged from the mounting member.

9. The container handling apparatus of claim 8, wherein the support member is releasable from the mounting member without the use of tools, and wherein the retainer is releasable from the support member without the use of tools.

10. The container handling apparatus of claim 8, wherein the retainer is captured in position by a portion of the support member and a portion of the mounting member without the use of conventional fasteners.

11. The container handling apparatus of claim 1, wherein the support member includes a recess configured to receive a portion of the container.

12. The container handling apparatus of claim 11, wherein the container includes a collar, and wherein the support member engages the container at a location below the collar and the retainer engages the container at a location above the collar.

13. A method of reconditioning a container handling apparatus, the container handling apparatus including a support member configured to be coupled to a conveyor, the method comprising:

coupling a first one-piece retainer to the support member;

engaging and releasing a first container with the first retainer;

uncoupling the first retainer from the support member;

coupling a second one-piece, retainer to the support member; and

engaging and releasing a second container with the second retainer.

14. The method of claim 13, wherein coupling and uncoupling the first retainer, and coupling the second retainer are achieved without the use of tools.

15. The method of claim 13, wherein the support member includes spaced apart projections each defining a groove therein, and wherein coupling the first and second retainers to the support member includes positioning at least a portion of the retainers in the grooves.

16. The method of claim 15, wherein the container handling apparatus further includes a mounting member configured for releasably engaging the support member to couple the support member to the conveyor, and wherein coupling the first and second retainers to the support member further includes positioning the retainers into engagement with a portion of the mounting member such that the retainers are biased into engagement with the projections by the mounting member.

17. The method of claim 13, wherein the container handling apparatus further includes a mounting member configured for releasably engaging the support member to couple the support member to the conveyor, the method further comprising:

disengaging the support member from the mounting member prior to coupling the first retainer to the support member;

re-engaging the support member with the mounting member in order secure the first retainer in a coupled position;

disengaging the support member from the mounting member to permit uncoupling the first retainer from the support member; and

re-engaging the support member with the mounting member in order to secure the second retainer in the coupled position.

18. The method of claim 17, wherein disengaging and re-engaging the support member is achieved without the use of tools.

19. The method of claim 17, wherein re-engaging the support member with the mounting member includes capturing the respective first and second retainers between a portion of the support member and a portion of the mounting member without using conventional fasteners.

20. The method of claim 13, wherein engaging and releasing the first and second containers includes resiliently deforming the respective first and second one-piece retainers, the resilient deformation occurring automatically as the containers are engaged by and released from the retainers.

21. A conveyor assembly comprising:

a conveyor; and

a plurality of container handling assemblies coupled to the conveyor, each of the container handling assemblies including,

a mounting member coupled to the conveyor;

a support member releasably engaged to the mounting member; and

a one-piece retainer releasably coupled to the support member, the retainer including a first arm portion, a second arm portion, and a base portion interconnecting the first and second arm portions such that a container can be engaged and retained by the first and second arm portions;

wherein the retainer can be uncoupled from the support member without the use of tools upon disengagement of the support member from the mounting member.

22. The conveyor assembly of claim 21, wherein the support member includes spaced apart projections, and wherein the retainer is captured and secured with respect to the support member by the projections and by at least a portion of the mounting member.

23. The conveyor assembly of claim 21, wherein the support member is releasable from the mounting member without the use of tools.

24. The conveyor assembly of claim 21, wherein the support member includes a recess configured to receive a portion of the container.

25. The conveyor assembly of claim 21, wherein each of the arm portions includes a distal end and an arcuate portion adjacent the distal end, wherein the distal ends of the respective arm portions are spaced and configured to accept entry of the container such that the arm portions deflect away from one another as the container enters between the distal ends, the container being securable between the respective arcuate portions of the first and second arm portions.